

BEST AVAILABLE COPY

Appl. No. 09/650,329

Amdt. dated January 12, 2006

Reply to Office Action of October 18, 2005

PATENT**Amendments to the Claims:**

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1-3. (Canceled).

4. (Currently amended) A method for synchronizing a ~~digital-video-host~~ system including a host computer having a microprocessor, a receiver circuit and a decoder circuit, the method comprising:

(a) coupling the receiver circuit with the decoder circuit ~~only through and the microprocessor, wherein the receiver circuit, decoder circuit, and microprocessor each comprise~~ separate nodes of a bus in the host computer;

(b) maintaining synchronization between the receiver circuit and ~~the a~~ transmitter [~~, without utilizing the host microprocessor,~~] ~~external to the host computer~~ by receiving a first transport packet from ~~a~~ ~~the~~ transmitter with the receiver circuit; capturing a first system time clock (STC) timestamp at a start of receiving the first transport packet, the first STC timestamp being captured into a latch ~~in the receiver circuit~~; obtaining a program clock reference (PCR) timestamp from the transport packet; comparing the first STC timestamp to the PCR timestamp to generate a comparison result; and adjusting ~~an a~~ STC frequency based on the comparison result ~~by using firmware within the receiver circuit~~;

(c) capturing, with the decoder circuit, a system timestamp ~~for from~~ an application system coupled with the decoder circuit but not with the receiver circuit; and

(d) adjusting the system timestamp with an offset based on a message delay time between the decoder circuit and the ~~first STC timestamp captured by the~~ receiver circuit to maintain synchronization between the decoder circuit and the receiver circuit.

Appl. No. 09/650,329

Amdt. dated January 12, 2006

Rcply to Office Action of October 18, 2005

BEST AVAILABLE COPYPATENT

5-6. (Canceled).

7. (Previously presented) The method according to claim 4 further comprising:

(e) receiving data from the decoder circuit into a first register in a bus interface on the bus in the host computer;

(f) latching a second STC timestamp into a second register in the bus interface after receiving the data from the decoder circuit; and

(g) providing the second STC timestamp to the decoder circuit by way of the second register.

8. (Previously presented) The method according to claim 4 wherein the application system comprises an audio-visual system and the decoder circuit comprises an audio-visual interface.

9. (Previously presented) The method according to claim 4 wherein the application system comprises a networked computer system and the decoder circuit comprises a computer network interface.

10-12. (Canceled).

13. (Currently amended) A system for synchronizing a ~~digital video host~~ system including a host computer having a microprocessor, a receiver circuit and a decoder circuit, the system comprising:

(a) a bus in the host computer having the microprocessor, the receiver circuit and the decoder circuit on separate nodes thereof;

(b) the receiver circuit being adapted to maintain the synchronization between the receiver circuit and the a transmitter without using the host microprocessor and external to

BEST AVAILABLE COPY

Appl. No. 09/650,329

PATENT

Amdt. dated January 12, 2006

Reply to Office Action of October 18, 2005

the host computer, the receiver circuit comprising: a parser adapted to obtain a program clock reference (PCR) timestamp from a first transport packet, the first transport packet including the PCR timestamp; a first latch coupled to the parser, the first latch being adapted to capture a first system time clock (STC) timestamp near a beginning of receipt of a first transport packet from a transmitter by the receiver circuit; a comparison device coupled to the parser and to the latch, the comparison device being configured to compare the STC timestamp to the PCR timestamp so as to generate a comparison result; and a first adjuster coupled to the comparison device, the first adjuster being adapted to adjust a frequency of the system time clock based on the comparison result;

(c) a second latch in the decoder circuit, the second latch being adapted to capture a system timestamp ~~for~~ from an application system coupled with the decoder circuit but not with the receiver circuit; and

(d) a second adjuster coupled to the decoder circuit, the second adjuster being adapted to adjust the system timestamp with an offset based on a message delay time between the decoder circuit and the first STC timestamp captured by the receiver circuit to maintain synchronization between the decoder circuit and the receiver circuit.

14-15. (Cancelled).

16. (Previously presented) The system according to claim 13 further comprising:

(e) a first register in a bus interface comprised by the bus in the host computer, the first register being adapted to receive data from the decoder circuit; and

(f) a second register in the bus interface, the second register being adapted to latch a second STC timestamp after the first register receives the data from the decoder circuit,

BEST AVAILABLE COPY

Appl. No. 09/650,329
Amdt. dated January 12, 2006
Reply to Office Action of October 18, 2005

PATENT

wherein the second STC timestamp is provided to the decoder circuit by way of the second register.

17. (Previously presented) The system according to claim 13 wherein the application system comprises an audio-visual system and the decoder circuit comprises an audio-visual interface.

18. (Previously presented) The system according to claim 13 wherein the application system comprises a networked computer system and the decoder circuit comprises a computer network interface.

19. (Previously presented) The method according to claim 4 wherein the offset is scaled by a nonunity value.

20. (Currently amended) A method for synchronizing a ~~digital-video-host~~ system including a host computer having a microprocessor, a receiver circuit and a decoder circuit, the method comprising:

(a) coupling the receiver circuit with the decoder circuit only through and the microprocessor, where the receiver circuit, decoder circuit, and microprocessor each comprise separate nodes of a bus in the host computer;

(b) maintaining synchronization between the receiver circuit and the a transmitter [, without utilizing the host microprocessor,] external to the host computer by receiving a first transport packet from a the transmitter with the receiver circuit; capturing a first system time clock (STC) timestamp at a start of receiving the first transport packet, the first STC timestamp being captured into a latch in the receiver circuit; obtaining a program clock reference (PCR) timestamp from the transport packet; comparing the first STC timestamp to the PCR timestamp to generate a comparison result; and adjusting as a STC frequency based on the comparison result using the receiver circuit;

BEST AVAILABLE COPY

Appl. No. 09/650,329

PATENT

Amdt. dated January 12, 2006

Reply to Office Action of October 18, 2005

(c) receiving data from the decoder circuit into a first register in a bus interface comprised by the bus;

(d) latching a second STC timestamp into a second register in the bus interface after receiving the data from the decoder circuit; and

(e) providing the second STC timestamp to the decoder circuit by way of the second register.

21. (Previously presented) The method according to claim 20 wherein the decoder circuit comprises an audio-visual interface.

22. (Previously presented) The method according to claim 20 wherein the decoder circuit comprises a computer network interface.

23. (Previously presented) The system according to claim 13 wherein the offset is scaled by a nonunity value.

24. (Currently amended) A system for synchronizing a ~~digital video host~~ system including a host computer having a microprocessor, a receiver circuit and a decoder circuit, the system comprising:

(a) a bus in the host computer that couples the receiver circuit with the decoder circuit and the microprocessor, wherein the receiver circuit, the decoder circuit, and the microprocessor each comprise separate nodes of the bus;

(b) the receiver circuit being adapted to maintain the synchronization between the receiver circuit and the a transmitter without using the host microprocessor and external to the host computer, the receiver circuit comprising: a parser adapted to obtain a program clock reference (PCR) timestamp from a first transport packet, the first transport packet including the PCR timestamp; a first latch coupled to the parser, the first latch being adapted to capture a first system time clock (STC) timestamp near a beginning of receipt of a first transport packet from a

BEST AVAILABLE COPY

Appl. No. 09/650,329

PATENT

Amdt. dated January 12, 2006

Reply to Office Action of October 18, 2005

transmitter by the receiver circuit; a comparison device coupled to the parser and to the latch, the comparison device being configured to compare the STC timestamp to the PCR timestamp so as to generate a comparison result; and a first adjuster coupled to the comparison device, the first adjuster being adapted to adjust a frequency of the system time clock based on the comparison result;

(c) a first register in a bus interface comprised by the host-system bus, the first register being adapted to receive data from the decoder circuit; and

(d) a second register in the bus interface, the second register being adapted to latch a second STC timestamp after the first register receives the data from the decoder circuit, wherein the second STC timestamp is provided to the decoder circuit by way of the second register.

25. (Previously presented) The system according to claim 24 wherein the decoder circuit comprises an audio-visual interface.

26. (Previously presented) The system according to claim 24 wherein the decoder circuit comprises a computer network interface.